

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,269	03/10/2004	Hisao Arai	Q80047	2375
65565 SUGHRUE-26	7590 05/14/2007 5550		EXAMINER	
2100 PENNSYLVANIA AVE. NW		•	DHARIA, PRABODH M	
WASHINGTO	N, DC 20037-3213		ART UNIT PAPER NUMBER	
		•	2629	
			MAIL DATE	DELIVERY MODE
•			05/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

:	Application No.	Applicant(s)			
Office Action Summary	10/796,269	ARAI, HISAO			
Office Action Cultimary	Examiner	Art Unit			
The MAILING DATE of this communication app	Prabodh M. Dharia	2629			
Period for Reply	cars on the cover shock man the				
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DATE of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. If NO period for reply is specified above, the maximum statutory period value of the provision of the period for reply within the set or extended period for reply will, by statute. Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be tir will apply and will expire SIX (6) MONTHS from a cause the application to become ABANDONE	N. nely filed the mailing date of this communication. (D) (35 U.S.C. § 133).			
Status					
1) Responsive to communication(s) filed on 19 A	<u>pril 2007</u> .	•			
<i>,</i>					
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is					
closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.					
Disposition of Claims		•			
4) ☐ Claim(s) 1-18 is/are pending in the application 4a) Of the above claim(s) is/are withdray 5) ☐ Claim(s) is/are allowed. 6) ☐ Claim(s) 1-18 is/are rejected. 7) ☐ Claim(s) is/are objected to. 8) ☐ Claim(s) are subject to restriction and/or	wn from consideration.				
Application Papers					
9) The specification is objected to by the Examiner.					
10) \boxtimes The drawing(s) filed on <u>19 April 2007</u> is/are: a) \boxtimes accepted or b) \square objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).					
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).					
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.					
Priority under 35 U.S.C. § 119					
12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received.					
Attachment(s) 1) Notice of References Cited (PTO-892) Notice of Profeserous Petert Proving Review (PTO 948)	4) Interview Summar Paper No(s)/Mail I				
Notice of Draftsperson's Patent Drawing Review (PTO-948) Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date	5) Notice of Informal 6) Other:				

Application/Control Number: 10/796,269 Page 2

Art Unit: 2629

1. <u>Status:</u> Please address all the replies and correspondence to the new examiner art unit 2629. Receipt is acknowledged of papers submitted on 04-19-2007 under amendments and request for reconsideration, which have been placed of record in the file. Claims 1-18 are pending in this action.

Response to Amendment

- 2. Applicant has amended the drawing per objection to drawing; therefore objection to drawing is withdrawn.
- 3. The amendment filed 04-19-2007 does not introduce any new matter into the disclosure. The newly added claims 16-18 are supported by the original disclosure.

Claim Rejections - 35 USC § 103

- 4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 5. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahara Hiroshi (US 6,219,113 B1) in view of Ubusawa et al. (JP 03140903A).

Regarding Claim 1, Takahara Hiroshi teaches a pixel defect correcting method for image display (Col. 3, Lines 65-67, Col. 70, Lines 46-62), the method comprising: equipping a refractive index varying area (Col. 91, Lines 7-23, Lines 40-56, Col. 92, Lines 10-45 teaches variable refractive index area), which is different in refractive index from the surroundings thereof in a plane parallel to an image display face (Col. 40, Line 39 to Col. 41, Line 67), on a defective pixel on the image display face (Col. 70, Lines 33-59).

However, Takahara Hiroshi fails to recite specifically refractive index varying area.

However, Ubusawa et al. discloses a refractive index varying structure which is periodically varied in refractive index and generates image through light interference and the refractive index varying structure is equipped by irradiation of a laser beam (see constitution).

The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors (see constitution).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Ubusawa et al. in the teaching of Takahara Hiroshi to be able to have beam to thereby equip the refractive index varying area (see constitution). The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors facilitates to the larger area and has excellent mass productivity (see Constitution).

Regarding Claim 2, Takahara Hiroshi teaches a pixel defect correcting method for image display (Col. 3, Lines 65-67, Col. 70, Lines 46-62), the method comprising: equipping a pixel defect correcting film on an image display face (Col. 70 Lines 33-59); and equipping a

Page 4

refractive index varying area, (Col. 91, Lines 7-23, Lines 40-56, Col. 92, Lines 10-45 teaches variable refractive index area), which is different in refractive index from the surroundings thereof in a plane parallel to an image display face Col. 40, Line 39 to Col. 41, Line 67), on a defective pixel on the image display face (Col. 70, Lines 33-59).

However, Takahara Hiroshi fails to recite specifically refractive index varying area.

However, Ubusawa et al. discloses a refractive index varying structure which is periodically varied in refractive index and generates image through light interference and the refractive index varying structure is equipped by irradiation of a laser beam (see constitution).

The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors (see constitution).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Ubusawa et al. in the teaching of Takahara Hiroshi to be able to have beam to thereby equip the refractive index varying area (see constitution). The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors facilitates to the larger area and has excellent mass productivity (see Constitution).

Regarding Claim 3, Takahara Hiroshi teaches a pixel defect correcting method for image display (Col. 3, Lines 65-67, Col. 70, Lines 46-62),, the method comprising: attaching an image defect correcting film (Col. 70 Lines 33-59) having a refractive index varying area, (Col. 91, Lines 7-23, Lines 40-56, Col. 92, Lines 10-45 teaches variable refractive index area), which is different in refractive index from the surroundings thereof in a plane parallel to an image display

face Col. 40, Line 39 to Col. 41, Line 67), on a defective pixel on the image display face (Col. 70, Lines 33-59).

However, Takahara Hiroshi fails to recite specifically refractive index varying area.

However, Ubusawa et al. discloses a refractive index varying structure which is periodically varied in refractive index and generates image through light interference and the refractive index varying structure is equipped by irradiation of a laser beam (see constitution).

The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors (see constitution).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Ubusawa et al. in the teaching of Takahara Hiroshi to be able to have beam to thereby equip the refractive index varying area (see constitution). The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors facilitates to the larger area and has excellent mass productivity (see Constitution).

Regarding Claim 4, Takahara Hiroshi teaches the refractive index is varied by irradiating a laser beam to thereby equip the refractive index varying area (Col. 105, Line 64 to Col. 106, Line 7, Col. 3, Lines 5-20, Col. 63, Lines 24-36).

Regarding Claim 5, Takahara Hiroshi teaches the refractive index is varied by irradiating a laser beam to thereby equip the refractive index varying area (Col. 105, Line 64 to Col. 106, Line 7, Col. 3, Lines 5-20, Col. 63, Lines 24-36).

Art Unit: 2629

Regarding Claim 6, Takahara Hiroshi teaches the refractive index is varied by irradiating a laser beam to thereby equip the refractive index varying area (Col. 105, Line 64 to Col. 106, Line 7, Col. 3, Lines 5-20, Col. 63, Lines 24-36).

Regarding Claim 7, Takahara Hiroshi teaches an image display device, (Col. 1, Line 33-38) wherein a defective pixel of image display (Col. 3, Lines 65-67, Col. 70, Lines 46-62), is substantially corrected (Col. 9, Lines 9-24, Col. 70, Lines 14-59) by a refractive index varying area (Col. 91, Lines 7-23, Lines 40-56, Col. 92, Lines 10-45 teaches variable refractive index area), on an image display face (Col. 70, Lines 33-59) which is different in refractive index from the surroundings thereof in a plane parallel to an image display face (Col. 40, Line 39 to Col. 41, Line 67).

However, Takahara Hiroshi fails to recite specifically refractive index varying area.

However, Ubusawa et al. discloses a refractive index varying structure which is periodically varied in refractive index and generates image through light interference and the refractive index varying structure is equipped by irradiation of a laser beam (see constitution).

The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors (see constitution).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Ubusawa et al. in the teaching of Takahara Hiroshi to be able to have beam to thereby equip the refractive index varying area (see constitution). The reason to combine the color filter using photosensitive resin film has the

excellent grade therefore display the good and bright colors facilitates to the larger area and has excellent mass productivity (see Constitution).

Regarding Claim 8, Takahara Hiroshi teaches an image display device (Col. 1, Line 33-38) comprising: a refractive index varying area (Col. 91, Lines 7-23, Lines 40-56, Col. 92, Lines 10-45 teaches variable refractive index area), which is different in refractive index from the surroundings thereof in a plane parallel to an image display face (Col. 40, Line 39 to Col. 41, Line 67), the refractive index varying area (Col. 91, Lines 7-23, Lines 40-56, Col. 92, Lines 10-45 teaches variable refractive index area), being equipped above a defective pixel of the image display face (Col. 91, Line65 to Col. 92, Line 9, Col. 70, Lines 14-59).

However, Takahara Hiroshi fails to recite specifically refractive index varying area.

However, Ubusawa et al. discloses a refractive index varying structure which is periodically varied in refractive index and generates image through light interference and the refractive index varying structure is equipped by irradiation of a laser beam (see constitution).

The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors (see constitution).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Ubusawa et al. in the teaching of Takahara Hiroshi to be able to have beam to thereby equip the refractive index varying area (see constitution). The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors facilitates to the larger area and has excellent mass productivity (see Constitution).

Regarding Claim 9, Takahara Hiroshi teaches an image display device (Col. 1, Line 33-38) comprising: a pixel defect correcting film on an image display face (Col. 70 Lines 33-59); and equipping a refractive index varying area, (Col. 91, Lines 7-23, Lines 40-56, Col. 92, Lines 10-45 teaches variable refractive index area), which is different in refractive index from the surroundings thereof in a plane parallel to an image display face Col. 40, Line 39 to Col. 41, Line 67), on a defective pixel on the image display face (Col. 70, Lines 33-59).

However, Takahara Hiroshi fails to recite specifically refractive index varying area.

However, Ubusawa et al. discloses a refractive index varying structure which is periodically varied in refractive index and generates image through light interference and the refractive index varying structure is equipped by irradiation of a laser beam (see constitution).

The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors (see constitution).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Ubusawa et al. in the teaching of Takahara Hiroshi to be able to have beam to thereby equip the refractive index varying area (see constitution). The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors facilitates to the larger area and has excellent mass productivity (see Constitution).

Regarding Claim 10, Takahara Hiroshi teaches the pixel defect correcting film comprises photochromic material (Col. 36, Lines 19-67, Col. 106, Lines 1-5, Col. 70, line 6-13, Col. 71,

Lines 3-45, photochromic particle change their structure when irradiated with light waves).

6. Claims 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guang, Dong-Yuan et al. (US 2004/0183990 A1) in view of Helstern et al. (US 5,743,629).

Regarding Claim 11, Guang, Dong-Yuan et al. teaches a color mura (Mura phenomenon is a non-uniform color difference and also forming light leakage area per prior art of Liu et al. (US 6,771,345 B2) see Col. 2, Lines 9-11) correcting (page 1, paragraph 11), method comprising: equipping a color mura correcting film (color spacer film figure 2B, Item # 230a', 230b', 230c', page 2, paragraphs 16,29) is equipped to an image display portion of an image display (page 2, paragraphs 41,42); and correcting a color mura of a display image by the color mura correcting film (page 3,4, paragraph 48).

However, Guang, Dong-Yuan et al. fails to recite or disclose color correcting film generates complementary color.

However, Helstern et al. discloses color correcting film (Col. 5, Lines 10,11, Col. 3, Lines 16-23,30-46 figure 3, item # 22 generates complementary color (Col. 3, Lines 16-23, Lines 10-15 combines complementary color with main color to form a white light; i.e. to have uniform colors); generates the complementary color through light interference, (Col. 3, Lines 16-23, 36-47, Col. 1, Line 64 to Col. 2, Line 6).

The reason to combine is to be able to produce a uniform color display and reduce non uniform color differences.

Art Unit: 2629

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Helstern et al. in the teaching of Guang,

Dong-Yuan et al. to be able to have a display where complementary color generating film colors are combined with light illuminating device color to produce a white light and further producing uniform color and reducing non-uniformity of color so that display displaying image with uniform color (Col. 2, Lines 35-47).

Regarding Claim 14, Guang, Dong-Yuan et al. teaches a color mura (Mura phenomenon is a non-uniform color difference and also forming light leakage area per prior art of Liu et al. (US 6,771,345 B2) see Col. 2, Lines 9-11) correcting (page 1, paragraph 11), method comprising: equipping a color mura correcting film (color spacer film figure 2B, Item # 230a',230b',230c', page 2, paragraphs 16,29) is equipped to an image display portion of an image display (page 2, paragraphs 41,42); and correcting a color mura of a display image by the color mura correcting film (page3,4, paragraph48).

however, Guang, Dong-Yuan et al. fials to recite or disclose color correcting film generates complementary color.

However, Helstern et al. discloses color correcting film (Col. 5, Lines 10,11, Col. 3, Lines 16-23,30-46 figure 3, item # 22 generates complementary color (Col. 3, Lines 16-23, Lines 10-15 combines complementary color with main color to form a white light; i.e. to have uniform colors); generates the complementary color through light interference, (Col. 3, Lines 16-23, 36-47, Col. 1, Line 64 to Col. 2, Line 6).

The reason to combine is to be able to produce a uniform color display and reduce non uniform color differences.

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Helstern et al. in the teaching of Guang,

Dong-Yuan et al. to be able to have a display where complementary color generating film colors are combined with light illuminating device color to produce a white light and further producing uniform color and reducing non-uniformity of color so that display displaying image with uniform color (Col. 2, Lines 35-47).

7. Claims 12,13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guang, Dong-Yuan et al. (US 2004/0183990 A1) in view of Helstern et al. (US 5,743,629) as applied to claims 11 and 14 above, and further in view of Ubusawa et al. (JP 03140903A).

Regarding Claim 12, Guang, Dong-Yuan et al. modified by Helstern et al. as per claim 11 above teaches equipping the color mura film and generates the complementary color of the color mura of the display image through light interference, whereby the complementary color of the color mura of the display image is generated in the color mura correcting film.

However, Guang, Dong-Yuan et al. modified by Helstern et al. fails to disclose a refractive index varying structure which is periodically varied in refractive index and generates image through light interference and the refractive index varying structure is equipped by irradiation of a laser beam.

Art Unit: 2629

However, Ubusawa et al. discloses a refractive index varying structure which is periodically varied in refractive index and generates image through light interference and the refractive index varying structure is equipped by irradiation of a laser beam (see constitution).

The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors (see constitution).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Ubusawa et al. in the teaching of Guang, Dong-Yuan et al. modified by Helstern et al. to be able to have beam to thereby equip the refractive index varying area (see constitution). The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors facilitates to the larger area and has excellent mass productivity (see Constitution).

Regarding Claim 13, Ubusawa et al. discloses the refractive index varying structure is equipped by irradiation of a laser beam (see Constitution).

Regarding Claim 15, Guang, Dong-Yuan et al. modified by Helstern et al. as per claim 14 above teaches equipping the color mura film and generates the complementary color of the color mura of the display image through light interference, whereby the complementary color of the color mura of the display image is generated in the color mura correcting film.

However, Guang, Dong-Yuan et al. modified by Helstern et al. fails to disclose a refractive index varying structure which is periodically varied in refractive index and generates

image through light interference and the refractive index varying structure is equipped by irradiation of a laser beam.

However, Ubusawa et al. discloses a refractive index varying structure which is periodically varied in refractive index and generates image through light interference and the refractive index varying structure is equipped by irradiation of a laser beam (see constitution).

The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors (see constitution).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Ubusawa et al. in the teaching of Guang, Dong-Yuan et al. modified by Helstern et al. to be able to have beam to thereby equip the refractive index varying area (see constitution). The reason to combine the color filter using photosensitive resin film has the excellent grade therefore display the good and bright colors facilitates to the larger area and has excellent mass productivity (see Constitution).

8. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable ov Guang,
Dong-Yuan et al. (US 2004/0183990 A1) in view of Helstern et al. (US 5,743,629) and Ubusawa
et al. (JP 03140903A) as applied to claim 15 above, and further in view of Takahara Hiroshi (US 6,219,113 B1).

Regarding Claim 16, Guang, Dong-Yuan et al. modified by Helstern et al. and Ubusawa et al. as per claim 15 above teaches equipping the color mura film and generates the complementary color of the color mura of the display image through light interference, whereby

the complementary color of the color mura of the display image is generated in the color mura correcting film and a refractive index varying structure which is periodically varied in refractive index and generates image through light interference and the refractive index varying structure is equipped by irradiation of a laser beam.

However, Guang, Dong-Yuan et al. modified by Helstern et al. and Ubusawa et al. fails to disclose the refractive index varying structure comprises a plurality of scattering particles, which are periodically varied.

However, Takahara Hiroshi teaches the refractive index varying structure comprises a plurality of scattering particles, which are periodically varied (Col. 36, Lines 19-67, Col. 106, Lines 1-5, Col. 70, line 6-13, Col. 71, Lines 3-45).

The reason to combine is to be able to produce a correct defective pixel with irradiated light with pixel defect correcting film having refractive index varying structure.

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Takahara Hiroshi in the teaching of Guang, Dong-Yuan et al. to be able to have a display with capabilities to correct defective pixel wioth correcting film with irradiating laser light varying refractive index area (Col. 36, Lines 19-67, Col. 106, Lines 1-5, Col. 70, line 6-13, Col. 71, Lines 3-45).

Regarding Claim 17, Takahara Hiroshi teaches the scattering (Col. 71, Lines 10-14) particles are spherical (Col. 106, Lines 1-5 teaches particle with diameter, it is obvious the particles are spherical).

Art Unit: 2629

Regarding Claim 18, Takahara Hiroshi teaches the periodical variation period is set to 200 to 1000 nm (Col. 36, Lines 4-11, Col. 70, Lines 6-13 teaches laser period required for irradiation in ns convertible in wavelength in nm).

Response to Arguments

9. Applicant's arguments, see remark, filed 04-19-2007, with respect to the rejection(s) of claim(s) 1-15 under 5 U.S.C. 102(b) as being anticipated by Tagusa et al. (JP 2000-029019) and under 35 U.S.C. 103(a) as being unpatentable over Yamada (US 2003/0128309 A1) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Takahara Hiroshi (US 6,219,113 B1)) and Guang, Dong-Yuan et al. (US 2004/0183990 A1).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yamazaki; Shunpei (US 5,383,041 A) Electro-optical device

- 11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M. Dharia whose telephone number is 571-272-7668. The examiner can normally be reached on M-F 8AM to 5PM.
- 12. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Page 16

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Prabodh Dharia

Partial Signatory Authority

AU2629

May 05, 2007